

rhododendron (*Rhododendron maximum*), or other species. Shallow soil areas may include herbs such as little bluestem (*Schizachyrium scoparium*), marginal woodfern (*Dryopteris marginalis*), goldenrods (*Solidago* spp.), sedges (*Carex* spp.), resurrection fern (*Polypodium polypodioides*), rock-cap fern (*Polypodium virginianum*), oat grass (*Danthonia* spp.), Virginia saxifrage (*Saxifraga virginensis*), and common smooth rockcress (*Arabis laevigata*). Mosses and lichens are often important on bare rock and may be represented by numerous species.

This community is especially distinctive because it can support uncommon basophiles -- plant species that require substrates that have a pH near neutral -- such as Georgia hackberry (*Celtis tenuifolia*), bladdernut (*Staphylea trifolia*), fragrant sumac, columbine (*Aquilegia canadensis*), maidenhair spleenwort (*Asplenium trichomanes*), walking fern (*Asplenium rhizophyllum*), hairy lip-fern (*Cheilanthes lanosa*), curlyheads (*Clematis ochroleuca*), lyreleaf rockcress (*Arabis lyrata*), and the rare cliff stonecrop (*Sedum glaucophyllum*). The Stokes County examples also contain species that are uncommon in the Piedmont such as crag-jangle (*Heuchera villosa*), Appalachian bellflower (*Campanula divaricata*), and the very uncommon grotto alumroot (*Heuchera parviflora*). Moist, sheltered areas at cliff margins may support forest herbs of rich soils such as enchanter's-nightshade (*Circaea lutetiana*), wild ginger (*Asarum canadense*), blue cohosh (*Caulophyllum thalictroides*), black cohosh (*Cimicifuga racemosa*), cove bladder fern (*Cystopteris protrusa*), maidenhair fern (*Adiantum pedatum*), and silvery spleenwort (*Deparia acrostichoides*). In Stokes County, the community typically grades to the Canada Hemlock Forest or Mesic Mixed Hardwood Forest community types.

### Spray Cliff

This is a rare community type in North Carolina. Most examples occur in the mountains, but a few marginally-developed examples occur in the Piedmont. It occurs on steep to vertical rock faces that are constantly wet from the spray of waterfalls, thus it can also be considered a wetland community type. Small accumulations of mineral or organic material are interspersed with bare rock. The vegetation reflects the constantly moist, humid conditions. It is a primarily a collection of mosses, liverworts, and herbs though occasional shrubs or small trees may be present. In addition to a typically diverse moss and liverwort flora, Spray Cliffs may support herbs such as saxifrages (*Saxifraga* spp.), alumroots (*Heuchera* spp.), and various other moisture-loving species. Riverweed (*Podostemum ceratophyllum*) may be submerged in water. Spray Cliffs of the mountains, particularly the southern Blue Ridge, have a more diverse flora and may contain numerous endemic species or those disjunct from tropical regions. The Piedmont examples are important because they often support species that are disjunct from the mountains.